1 Skin-Temperature Measurement Conversion Instructions (Incubator 8000 IC/SC/NC)

Please note: For removal of control unit see step 1 - 10, for installation see step 31 - 47.

1.1 General Information

- Perform the "skin-temperature measurement" conversion only if the Incubator 8000 IC/SC/NC is equipped with a skin-temperature module, see the following Figure.

1.1.1 Incubator 8000 IC/SC/NC with skin-temperature control

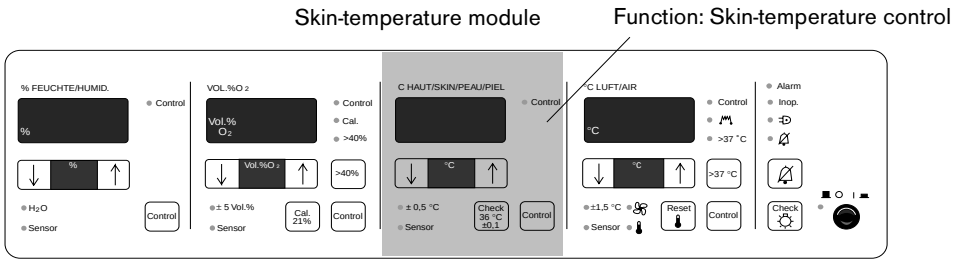

Fig. 1: Front view of the Incubator's control unit with skin-temperature control

The Incubator 8000 IC/SC/NC is equipped with different Analog PCBs:

8200920-00
8200920-01
8200922-13
8200922-16
or
8290678-01
8290678-02
8290678-03
8290680-04

Analog PCB, part numbers
8200920-00
8200920-01
8200922-13
8200922-16
can be identified by the following characteristics:
The skin-temperature sensor socket is either fitted on the environmental sensor or on the rear panel of the Incubator.

Analog PCB, part numbers
8290678-01
8290678-02
8290678-03
8290680-04
can be identified by the following characteristics:
A yellow skin-temperature sensor socket is fitted on the left side of the Incubator.

Parts included in the conversion kit

- Conversion kit for Incubator 8000 IC/SC/NC with a yellow skin-temperature sensor socket on the left side of the Incubator:

		Part Number
Conversion Instructions		
Adhesive label		2M22384
EPROM	Software version 11.02 (Incubator 8000 NC/SC)	2M22332
EPROM	Software version 21.02 (Incubator 8000 IC)	2M22331
Analog PCB		2M22404-00
or		
Analog PCB		2M22405-00
or		
Analog PCB		2M22406-00
or		
Analog PCB		2M22407-00

- Conversion kit for Incubator 8000 IC/SC/NC with the skin-temperature sensor socket fitted either on the environmental sensor or on the rear panel of the Incubator:

		Part Number
Conversion Instructions		
Adhesive label		2M22384
EPROM	Software version 10.05 (Incubator 8000 NC/SC)	2M22326
EPROM	Software version 20.04 (Incubator 8000 IC)	2M22327
Analog PCB		2M22400-00
or		
Analog PCB		2M22401-00
or		
Analog PCB		2M22402-00
or		
Analog PCB		2M22403-00

- If all items are included, proceed to conversion procedure, step 1.

1.1.2 Incubator 8000 IC/SC/NC with thermomonitoring

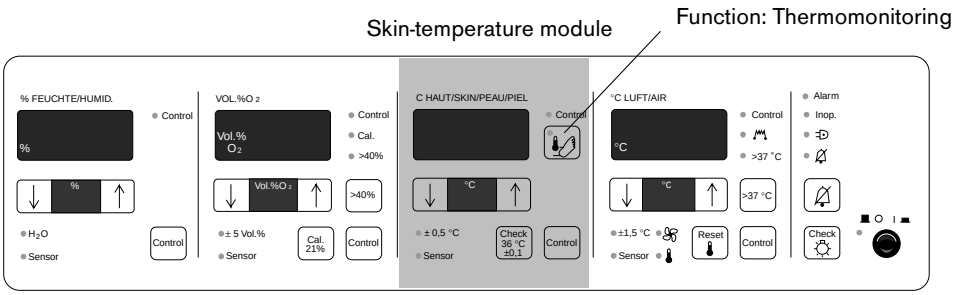

Fig. 2: Front view of the Incubator's control unit with thermomonitoring

Parts included in the conversion kit

- Before starting the conversion, check that all items listed below are included in the conversion kit:

		Part Number
Conversion Instructions		
Adhesive label		2M22384
EPROM	Software version 11.02 (Incubator 8000 NC/SC)	2M22332
EPROM	Software version 21.02 (Incubator 8000 IC)	2M22331
Analog PCB		2M22404-00
or		
Analog PCB		2M22405-00
or		
Analog PCB		2M22406-00
or		
Analog PCB		2M22407-00

- If all items are included, proceed to conversion procedure, step 1.

1.2 Conversion Procedure

1. Move electrical height adjustment (optional) of the Incubator 8000 IC/SC/NC to the highest position.
2. Switch off the Incubator 8000 IC/SC/NC using the ON/OFF switch.
3. Unplug the power plug of the Incubator 8000 IC/SC/NC from the mains socket-outlet.

Electrostatic discharge may damage electrostatic sensitive devices. When handling electrostatic sensitive devices, use a static-dissipative mat and a static dissipative wrist strap.

4. Observe ESD precautions.
5. Support the Incubator's cover plate with one hand and turn catches (a) 90° counter-clockwise.

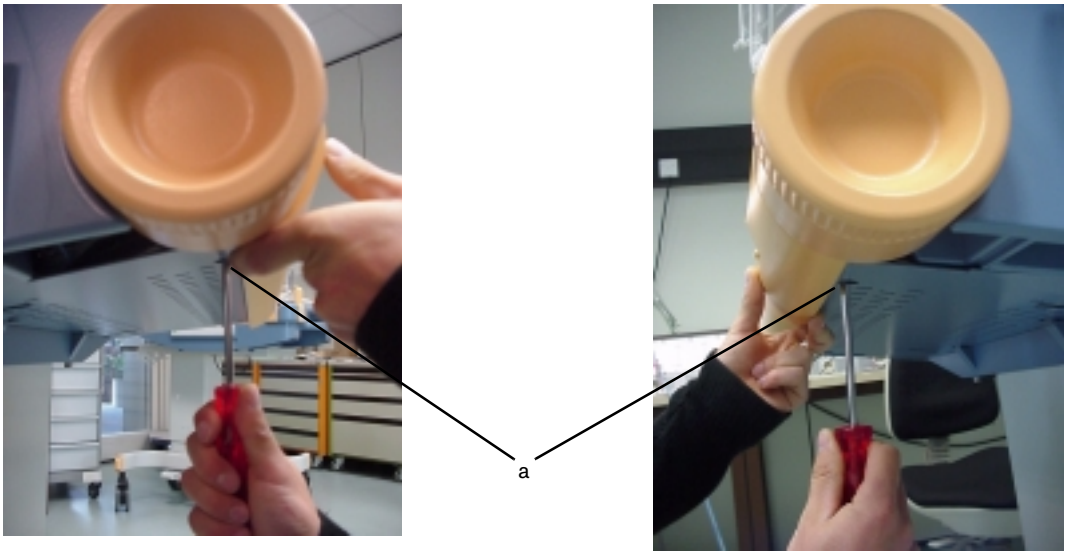

Fig. 3: Left and right side view of the Incubator 8000 IC/SC/NC

6. Unlock latches (b) of the electronic module and fold down the electronic unit.

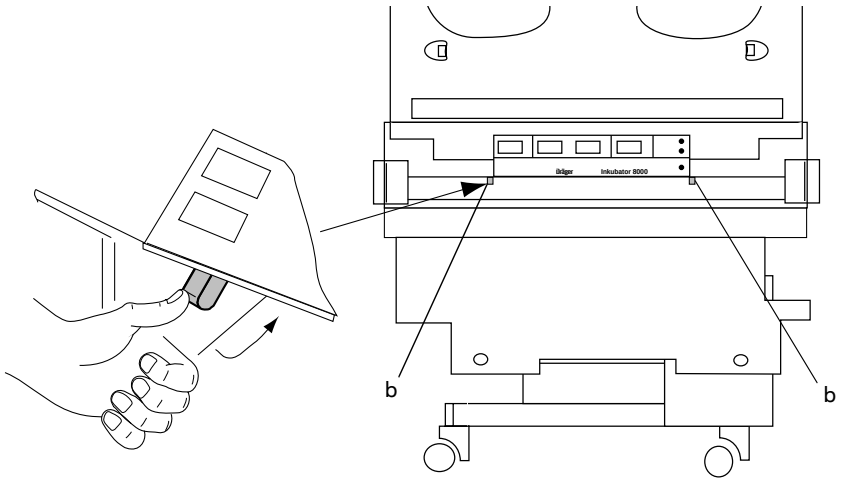

Fig. 4: View of the Incubator 8000 IC/SC/NC

Risk of damage to equipment. The electronic unit is connected with the Incubator's cables which might be damaged during disassembly. To avoid damage to these cables, carefully remove the electronic unit as shown in the following step.

7. Remove the following cable connectors from the electronic unit:
   - Disconnect cable connectors of the protective conductors (c) from the housing frame of the electronic unit.
   - Take the cable connector (d) by the connector and disconnect it from the Analog PCB.
   - Take the cable connector (e), if present, by the connector and disconnect it from the Analog PCB.

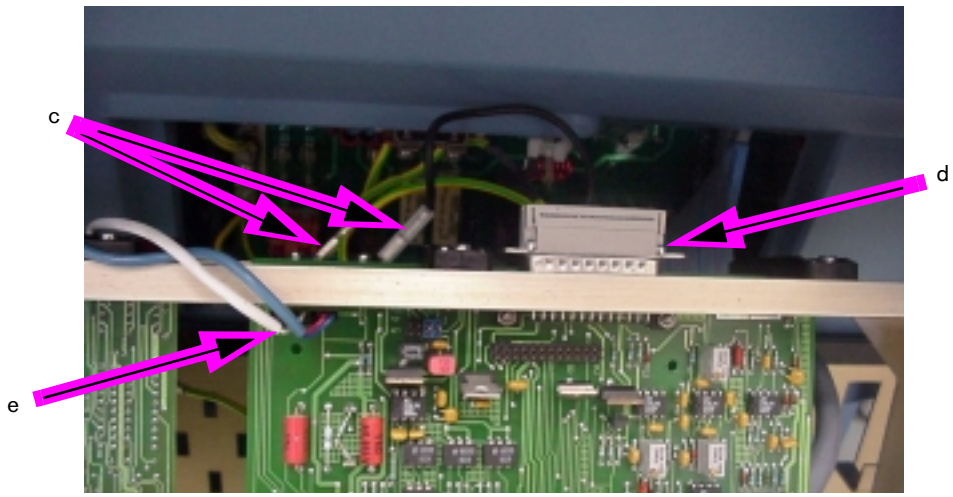

Fig. 5: Cable connections of the electronic unit

8. Carefully remove the electronic unit and disconnect the cable connector of the auxiliary fan (f) (Note: The cable connector of the auxiliary fan is located on the left side of the Motherboard PCB).

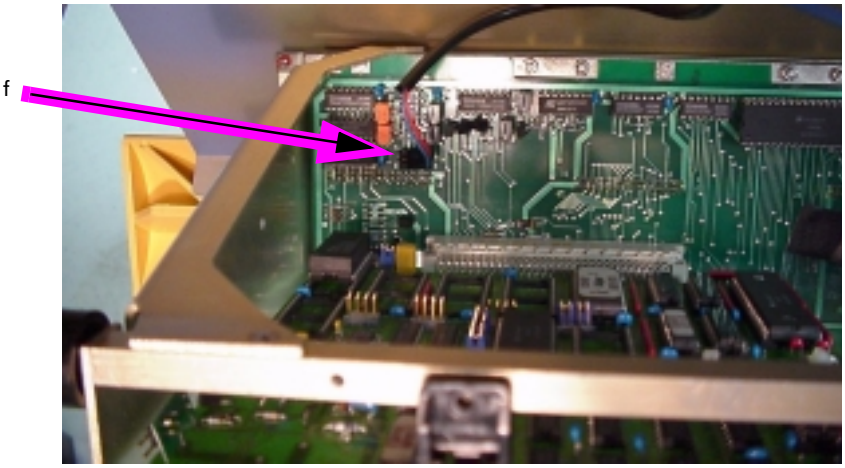

Fig. 6: Detail of the Motherboard PCB

9. Disconnect cable connector (g) from the Motherboard PCB; to do so press both latches of the cable connectors sideways at the same time.

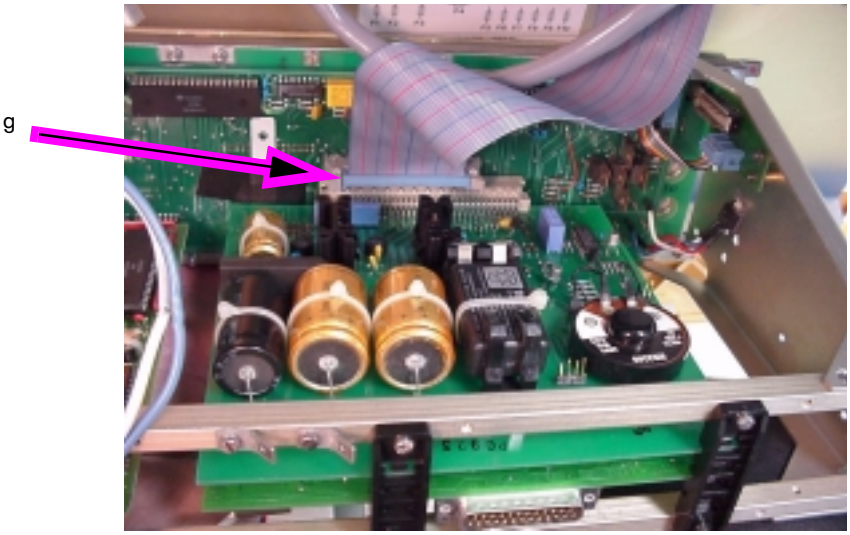

Fig. 7: Right side view of the electronic unit

10. Place the electronic unit on a stable surface.

11. Unscrew screws (h) and remove board securing clamps.

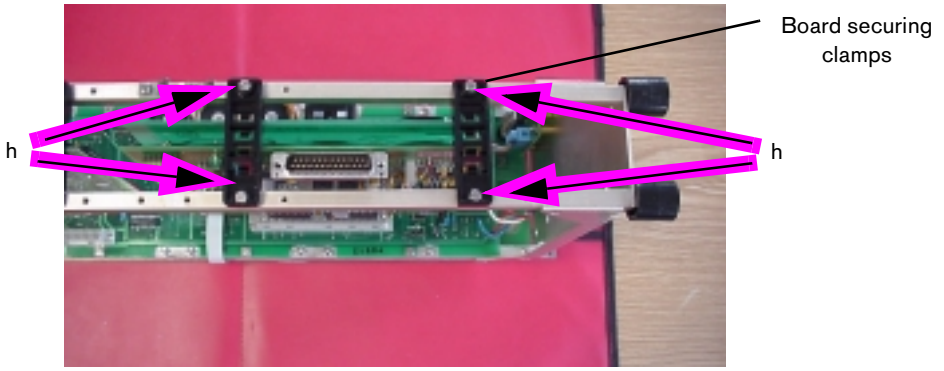

Fig. 8: Removing the board securing clamps

12. Pull the Analog PCB out of the Motherboard PCB.

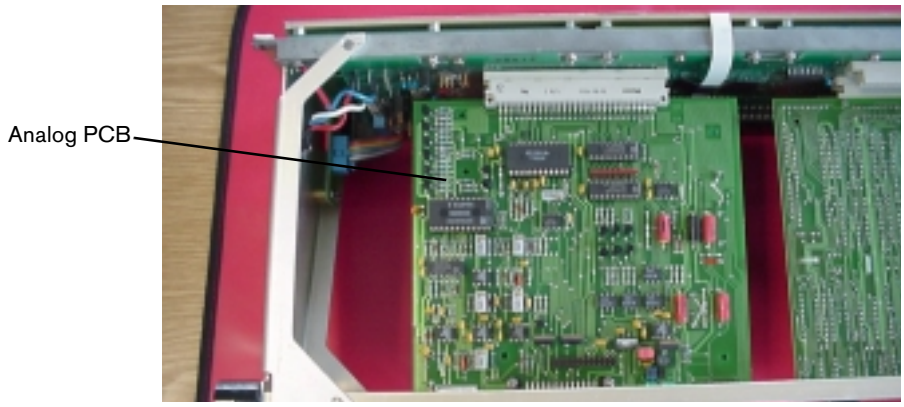

Fig. 9: Removing the Analog PCB

13. Place the Analog PCB aside.
14. Take the modified Analog PCB from the conversion kit.

Skin-temperature control with a single yellow socket	Skin-temperature control (Socket: on environmental sensor or on rear panel	Thermomonitoring
2M22404-00	2M22400-00	2M22404-00
or	or	or
2M22405-00	2M22401-00	2M22405-00
or	or	or
2M22406-00	2M22402-00	2M22406-00
or	or	or
2M22407-00	2M22403-00	2M22407-00

15. Check that the connecting pins of the Analog PCB terminal strip are straight; if necessary, carefully straighten out the connecting pins.

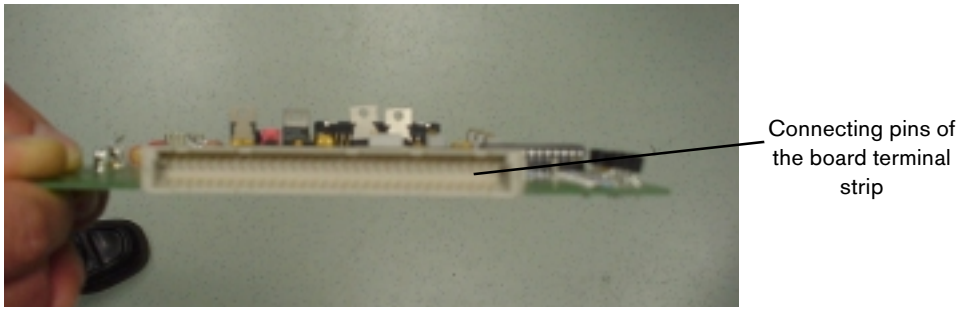

Fig. 10: View of the Analog PCB terminal strip

16. Mount the modified Analog PCB on the electronic unit by pushing the Analog PCB into the slot of the Motherboard PCB.

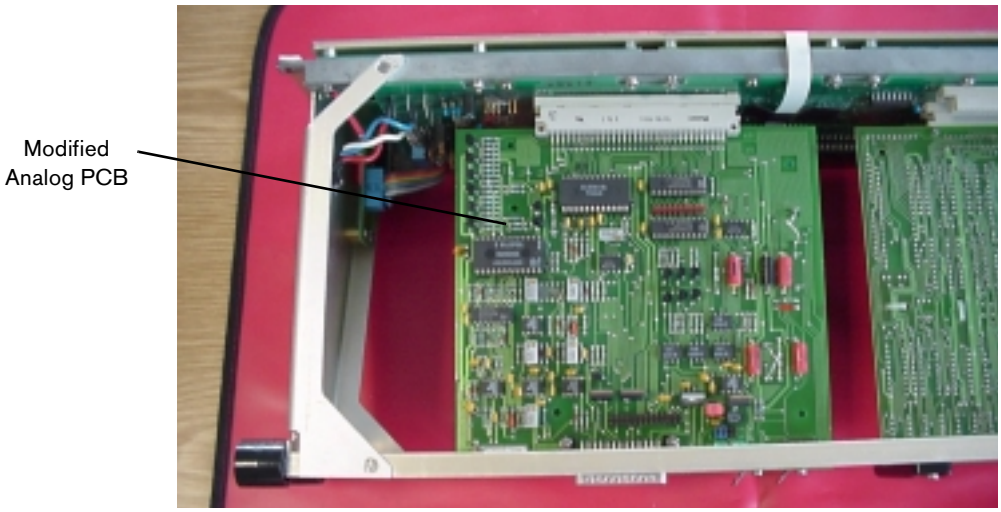

Fig. 11: Mounting the modified Analog PCB

17. Place the board securing clamps (the guides pointing downwards) onto the frame of the electronic unit such that the boards are secured in the guides of the board securing clamps.
18. Secure the board securing clamps to the frame of the electronic unit using the screws (i).

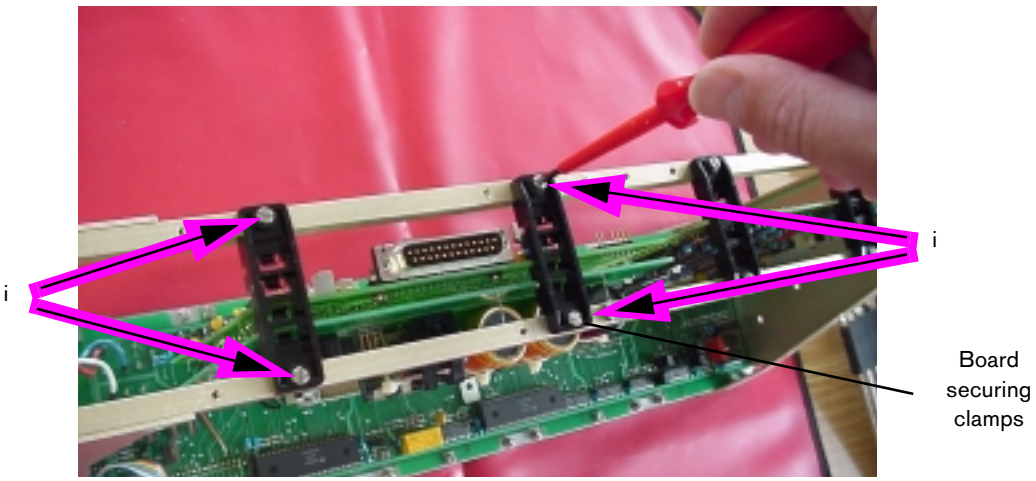

Fig. 12: Securing the board securing clamps to the frame of the electronic unit

19. Check the software version of the EPROM located on the CPU PCB (Note: The software version is printed on the adhesive label).

20. If the installed software version is lower than those shown in the table below, take the respective EPROM from the conversion kit and install it on the CPU PCB (Note: Make sure the fitting position of the EPROM is correct, see the following Figure).

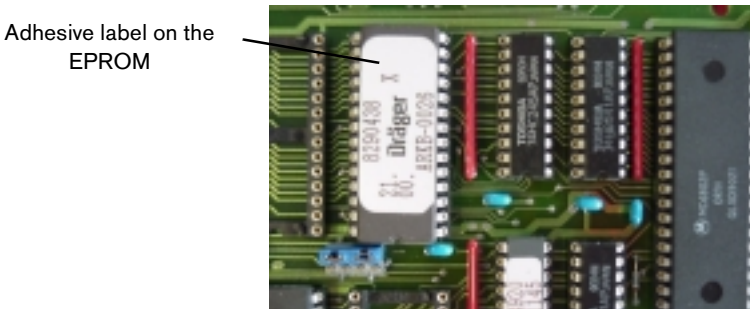

Fig. 13: EPROM

Software version to be installed	
10.05	11.02
20.04	21.02

Examples:
Replace software versions 10.00 through 10.04 with software version 10.05.
Replace software version 21.00 or 21.01 with software version 21.02.

Replace software version 11.00 or 11.01 with software version 11.02.

Replace software version 21.00 or 21.01 with software version 21.02.

21. You do not need to replace the EPROM if the correct software version with the correct revision number is installed on the CPU PCB. Assemble the Incubator, see steps 31.

22. If the existing software version on the CPU PCB has an earlier software revision number, replace the software version of the EPROM. Then proceed as follows:

23. Remove screws (k) and place board securing clamps aside.

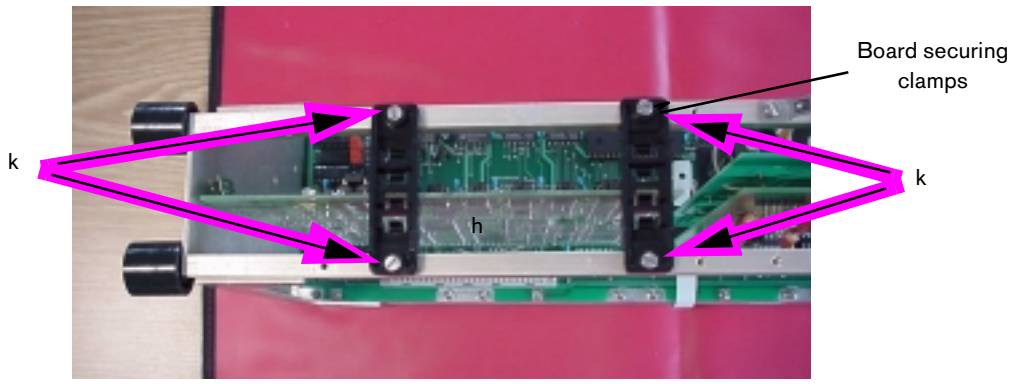

Fig. 14: Removing the board securing clamps

24. Carefully pull the CPU PCB out of the Motherboard PCB.

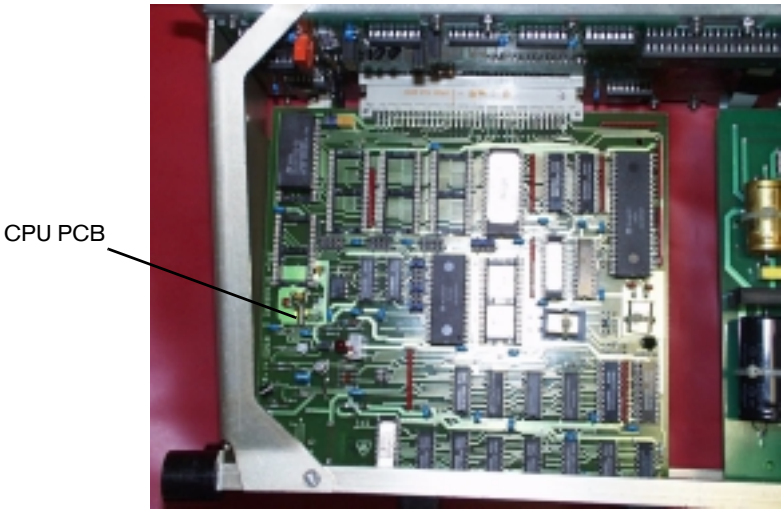

Fig. 15: Removing the CPU PCB

25. Remove the EPROM from its socket (preferably with an IC assembly clip) and place the EPROM aside.

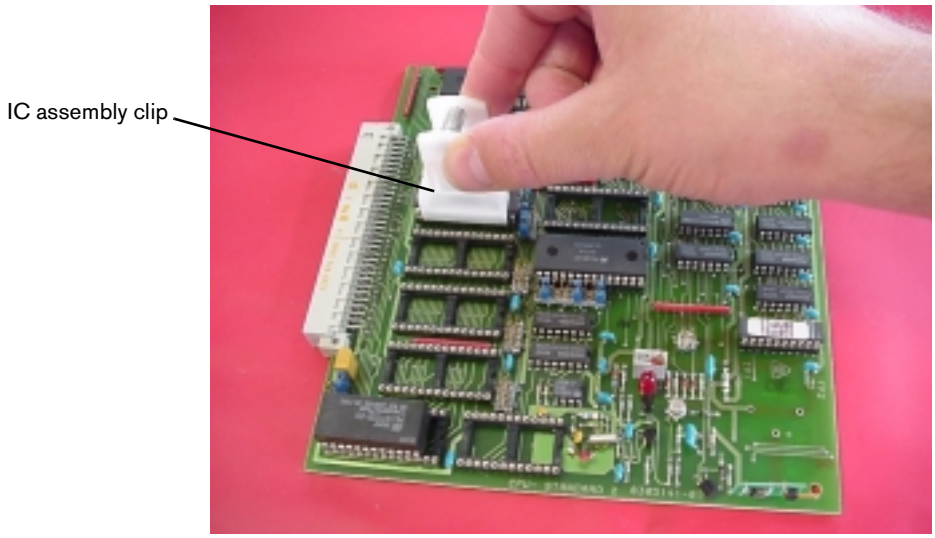

Fig. 16: Removing the EPROM from the CPU PCB.

Risk of malfunction. The Incubator will malfunction if the EPROM is mounted incorrectly. To avoid malfunctions, make sure the EPROM is fitted correctly into the IC socket, see the following Figure.

26. Take the necessary EPROM from the conversion kit (see the following table) and fit the EPROM correctly into the respective socket (preferably by using an IC assembly clip).

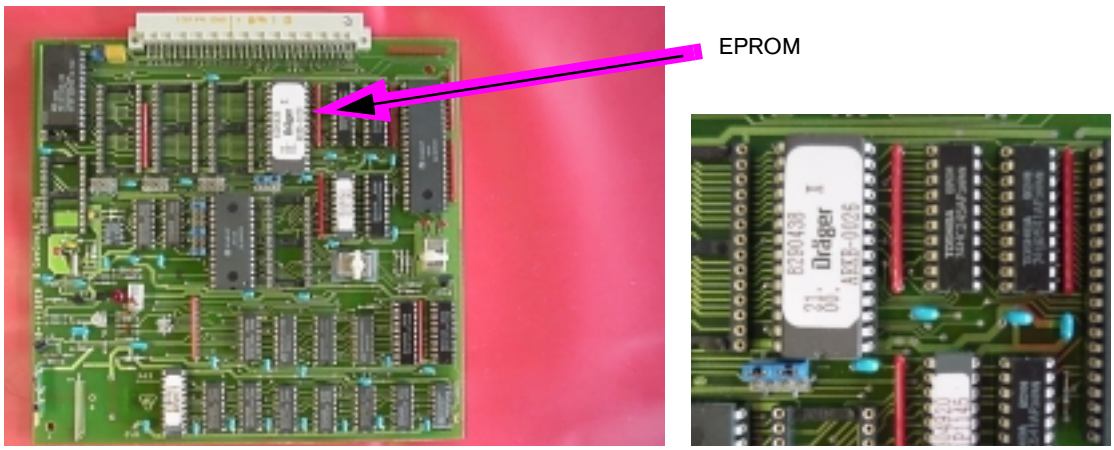

Fig. 17: EPROM on the CPU PCB; fitting position of the EPROM

Software version to be installed	
10.05	11.02
20.04	21.02

27. Check that the connecting pins of the CPU PCB terminal strip are straight; if necessary, carefully straighten out the connecting pins.

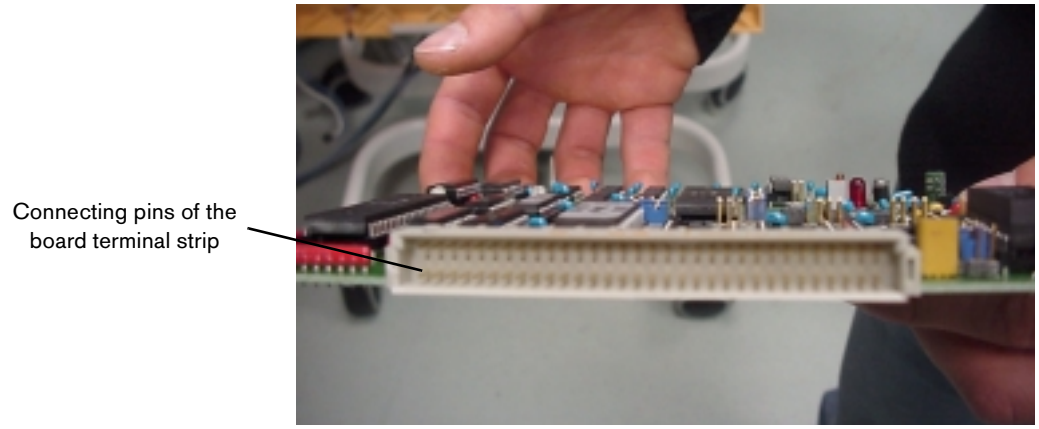

Fig. 18: Checking the connecting pins

28. Mount the CPU PCB on the electronic unit by pushing the CPU PCB into the slot of the Motherboard PCB.

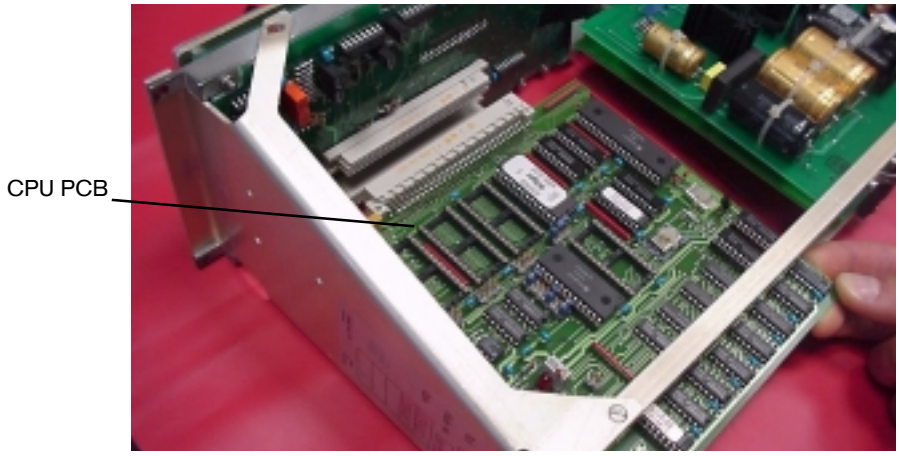

Fig. 19: Mounting the CPU PCB

29. Place the board securing clamps (the guides pointing downwards) onto the frame of the electronic unit such that the boards are secured in the guides of the board securing clamps, see the following Figure.

30. Secure the board securing clamps to the frame of the electronic unit using the screws (l).

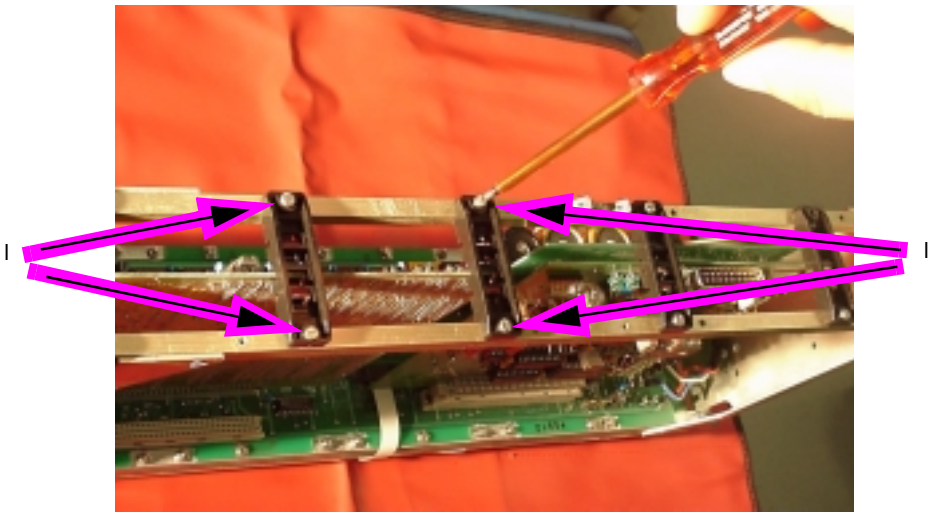

Fig. 20: Securing the board securing clamps to the frame of the electronic unit

31. Place the electronic unit in front of the Incubator and connect the auxiliary fan connector (m) from the cooling fan in the blue Incubator housing to the connection of the Motherboard PCB (Note: The connection is located on the left side of the Motherboard PCB).

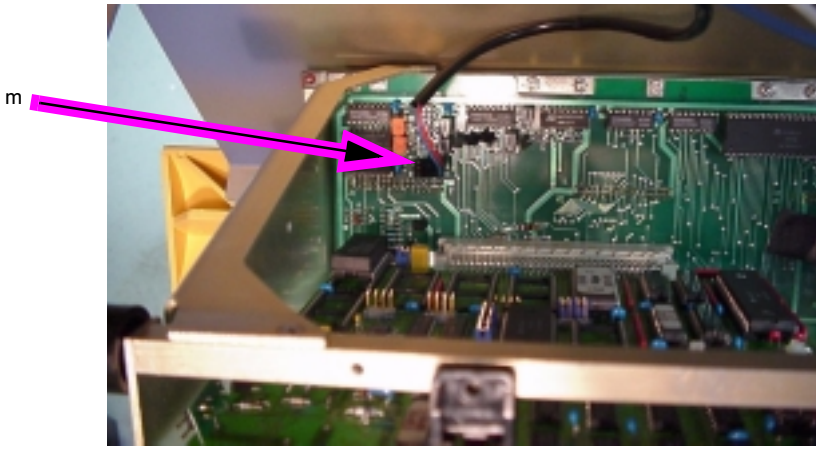

Fig. 21: Auxiliary fan connector

32. Push the cable connector (n) onto the connection of the Motherboard PCB until both latches engage.

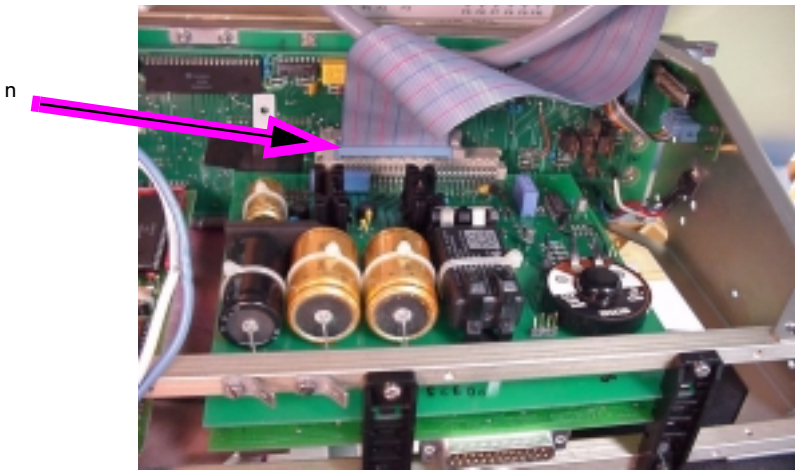

Fig. 22: View of the electronic unit

33. Fit the electronic unit into the Incubator by suspending the electronic unit on the guides of the Incubator, see the following Figure.

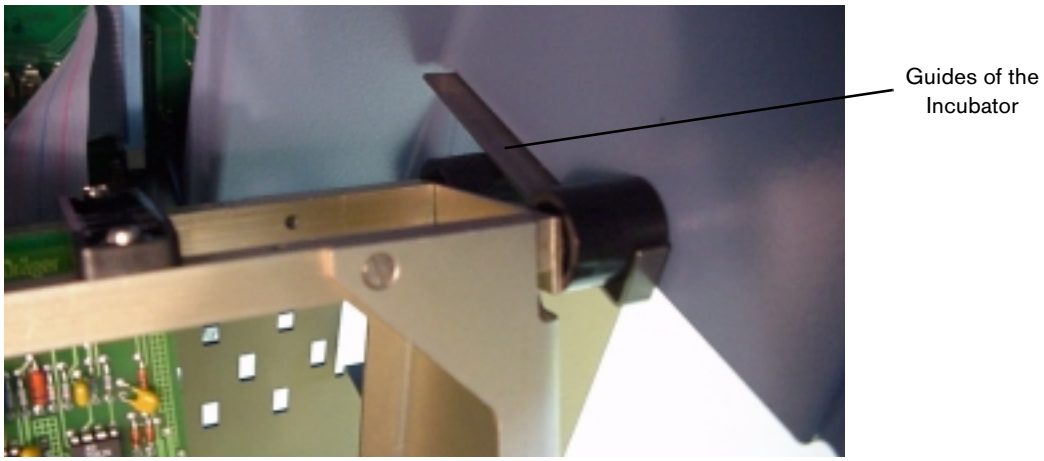

Fig. 23: Fitting the electronic unit

34. Connect cable terminals (o) of the protective conductors to the cable connectors on the housing frame of the electronic unit.

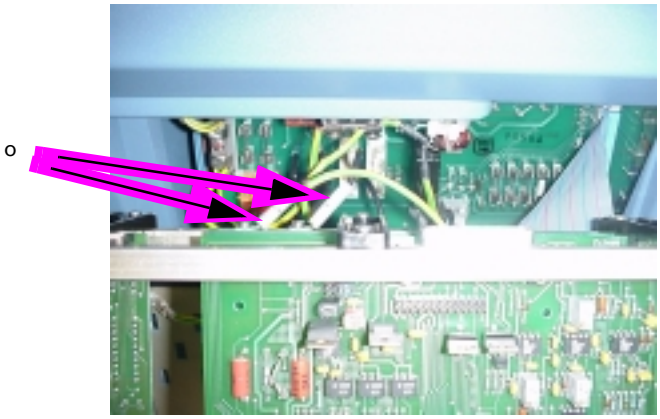

Fig. 24: Detail of the housing frame of the electronic unit

Risk of damage to equipment. The connecting cable of the skin-temperature sensors might be squeezed if installed incorrectly inside the Incubator. To avoid squeezing of the connecting cable of the skin-temperature sensor, install the connecting cable as shown in the following Figure.

35. Connect cable connector (p), if fitted, to the Analog PCB (pay attention to the coding).

Only on units with a yellow skin-temperature socket fitted on the left side of the blue housing of the Incubator.

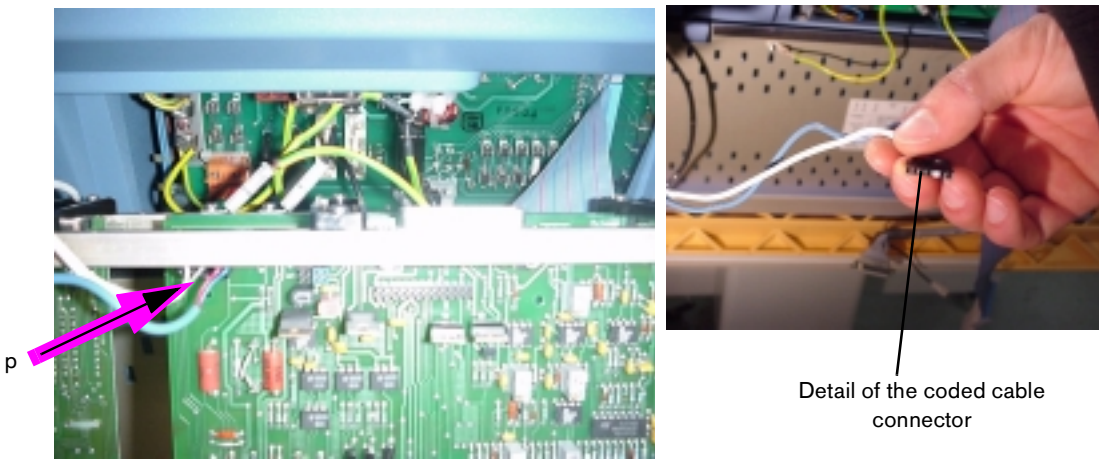

Fig. 25: Mounting the cable connector; coding of the cable connector

36. Connect the sub D connector to the Analog PCB.

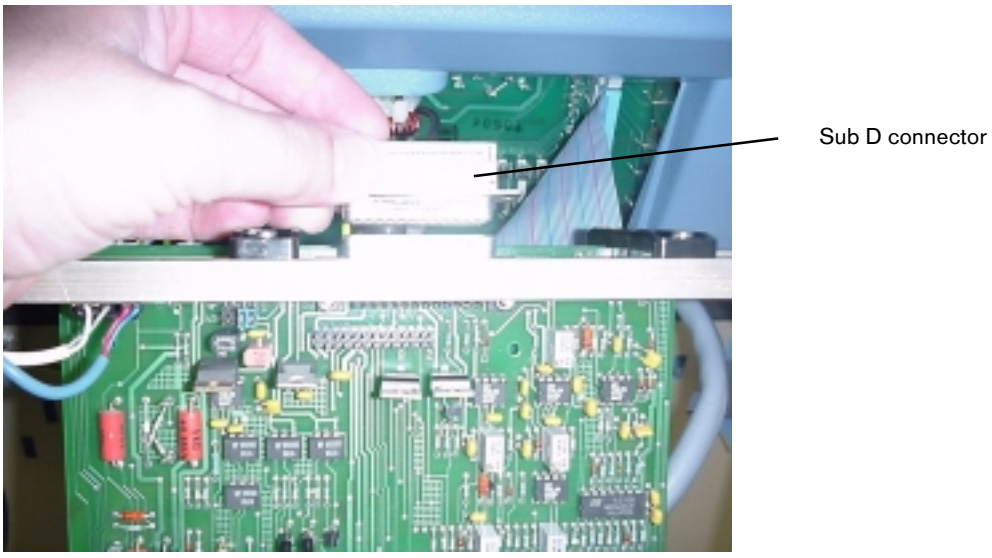

Fig. 26: Analog PCB

37. Make sure no cable is squeezed, then fold up the electronic unit and secure it to the Incubator using the latches (q).

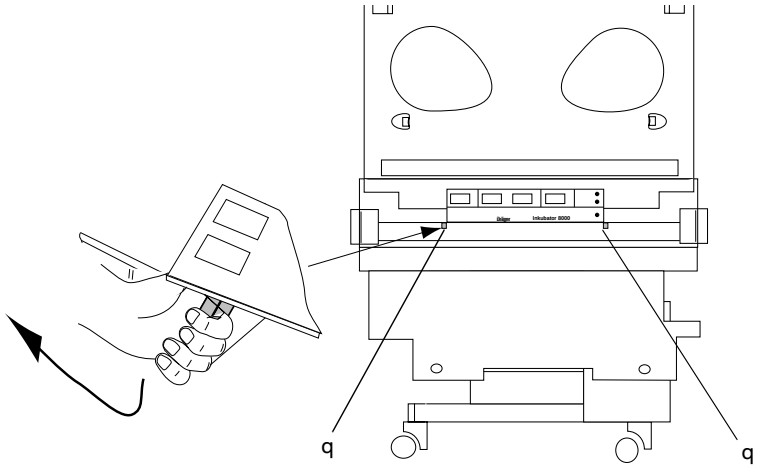

Fig. 27: Mounting the electronic unit

38. Fold up the Incubator's cover plate and secure it to the Incubator by turning the catches (q) 90° clockwise.

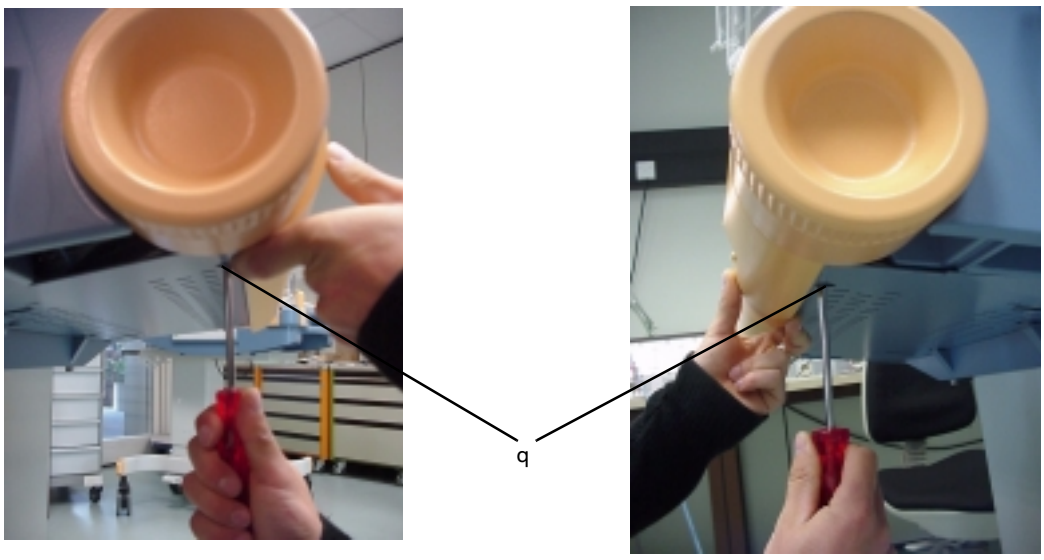

Fig. 28: Left and right side view of the Incubator 8000 IC/SC/NC

39. Check the electrical safety of the Incubator 8000 IC/SC/NC according to the Test Certificate or Test List or, for the USA and Canada, according to CAN/CSA - 22.2 No. 601.1 - M90.

40. Plug the power plug of the Incubator 8000 IC/SC/NC into the mains socket-outlet.

41. Switch on the Incubator 8000 IC/SC/NC using the ON/OFF switch.

The Incubator 8000 IC/SC/NC carries out a self test and should not display any error message on the 7-segment-display.

42. To check the Incubator 8000 IC/SC/NC, see the "Checking readiness for operation" section in the respective Instructions for Use/Operating Instructions.

43. Switch off the Incubator 8000 IC/SC/NC using the ON/OFF switch.

44. Take the adhesive label (2M22384) from the conversion kit and attach to the control unit as shown in the Figure below.

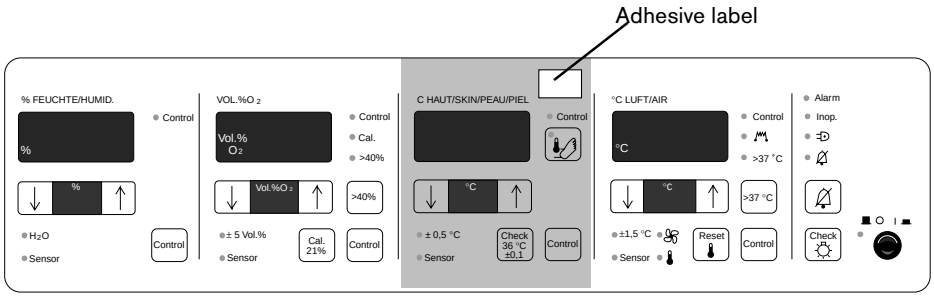

Fig. 29: Front view of the control unit

45. Place the dismounted Analog PCB in a shock-protected and electrostatic discharge protected package (if applicable, pack the EPROM separately from the Analog PCB).

46. Fill out the reply/feedback form and return it together with the dismounted Analog PCB and the EPROM to the sender stated in the head of the reply form.

Re-use bag and packing of dismounted components adequately.

47. Place Incubator 8000 IC/SC/NC to the owner's disposal.